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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/934,175	08/21/2001	Robert L. Canella	4323US (MUEI-0543.00/US)	7405
7590		08/26/2004	EXAMINER KIELIN, ERIK J	
Joseph A. Walkowski TRASKBRITT, PC P.O. BOX 2550 Salt Lake City, UT 84110		ART UNIT 2813		

DATE MAILED: 08/26/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/934,175

Applicant(s)

CANELLA, ROBERT L.

Examiner

Erik Kielin

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 June 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 9-18, 20-23 and 42-50 is/are pending in the application.
- 4a) Of the above claim(s) 42-50 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 9-18 and 20-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

This action responds to the Amendment filed 28 June 2004.

Election/Restrictions

1. Newly submitted claims 42-50 are directed to an invention that is independent or distinct from the invention originally claimed for the following reasons:

This application contains claims directed to the following patentably distinct species of the claimed invention:

- I. Substrate with various shapes of the seat portions of the aperture (Figs. 6-9).
- II. Springs with various shapes of the contact portion of the spring contact (Figs. 6-9).
- III. Substrates with the presence of a conductive trace on the top surface, bottom surface, or at an intermediate plane (Figs. 6-11).
- IV. Orientation of the conductive filler material along the wall of the aperture or to a certain depth (Figs. 6-11).
- V. Whether or not the aperture passes through the substrate or stops at some depth (Figs. 6-11).
- VI. Spring contact portions of various cross-sectional shape of the wire from which the spring was made (Figs. 12-14A).
- VII. The number of coils contacting the lead of the IC.
- VIII. The number of IC chips mounted to the substrate (Figs. 4 and 15).
- IX. The kind of IC lead (Figs. 12 and 16).
- X. The presence and nature of the clamping element.

In the first action on the merits, filed 26 July 2002, each of the species within each of the groups I, III, IV, V, and VII have already been considered. This constitutes the examination of a reasonable number of species.

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 46-50 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 9-18, 20-23 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Independent claim 9 was amended to include the limitation,

“the substantially uniform interior size of the retaining portion is smaller than an interior size of the seat portion at the first surface of the one-piece substrate”

First, there exists no requisite from the instant disclosure as to what “substantially uniform interior size” means. Second, the seat portion is shown to be **smaller** in size than the retaining portion --not **larger**-- as the seat portion occupies less space than the aperture. Examiner assumes that Applicant means (1) that the retaining portion of the aperture is an open cylinder having a substantially uniform diameter, and (2) that the mean diameter of the seat portion of the

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aperture is larger than the substantially uniform diameter of the retaining portion of the aperture, as this is consistent with the specification and drawings. Replacement of the above-cited amendment to claim 9 with the above limitations (1) and (2) would overcome this rejection.

For the purposes of patentability, the claims will be interpreted as best understood, in accordance with the disclosure.

The remaining claims are rejected for depending from the above rejected claims.

Claim Rejections - 35 USC § 102/103

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which the subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 9, 11, 12, 14, 16, 18, and 20-22 are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over US 6,229,320 B1 (Haseyama et al., **Haseyama-1**, hereafter).

Regarding claim 9, **Haseyama-1** discloses a device for establishing electrical contact between a lead element **28** (called “solder bumps” col. 10, Fig. 15) extending from an integrated circuit **25** (called “IC” col. 10, line 31) comprising,

a one-piece substrate **31** (Fig. 7), **31A** (Fig. 14B), **31A**, **41**, **42** (Figs. 15-16) bounded by a first surface and an opposing, second surface and having at least one conductive trace **48** (Fig. 16), wherein the first surface is configured for mounting a plurality of IC devices (called “semiconductor devices” in Haseyama at col. 1, lines 18-27) thereto, and wherein the conductive trace **48** is configured for operably connecting the IC device **25** to at least one electrical component (e.g. **47**, Fig. 16) mounted on the one-piece substrate;

a spring contact (Figs. 21A-21B, 23A) including a generally uncoiled base portion **71**, **72**, **73** (Figs. 24A-24C) and a contact portion **63**, the contact portion **63** comprising a resiliently compressible coil spring **63** comprising a plurality of coils (Fig. 22B, for example) configured to bias against and electrically contact a lead element **28** of an IC device **25** of the plurality of IC devices, and the base portion extending generally longitudinally from the contact portion and transversely to the coils of the coil spring (col. 15, lines 32-53; col. 16, lines 17-25); and

an aperture **43**, **44** including

a seat portion **53A** (Fig. 14B called a “bump positioning part” col. 11, last paragraph or “positioning holes” col. 12, line 15) opening onto the first surface of the one-piece substrate **31A**, **41**, **42** and sized and configured to at least partially contain the contact portion **63** of the spring contact **63** and support the coils of the coil spring during compression thereof (Figs. 9, 13B, 14B); and

a retaining portion **46, 70** (Figs. 16, 24A-24C) having a substantially uniform interior size and a first end connected to an opposing end of the seat portion **53A** (Fig. 14B) and a second end **46, 70** extending at least partially into the one-piece substrate, **31A, 41, 42**, wherein the substantially uniform interior size of the retaining portion is smaller than an interior size of the seat portion at the first surface of the one-piece substrate, and wherein the retaining portion is configured to receive and electrically connect (by item **46** in Fig. 16, called “through hole electrodes,” at col. 12, lines 45-47; or item **70** in Figs. 24A-24C) the base portion **71, 72, 73** of the spring contact **63**, to the at least one conductive trace **48** (Fig. 16).

Note, the compressed coil springs are supported by the seat portion (“bump positioning part”) of the aperture because the contact pins of **Haseyama** are shown as that in Figs. 21A through 22B and fit into the openings shown in Figs. 9, 13B, and 14B.

If it is thought that **Haseyama-1** does not provide a “one-piece substrate” since the items **31A, 41** and **42** are labeled differently, then this may be a difference. However, it has been held that the use of a one-piece construction instead of the separate pieces, would be merely a matter of obvious engineering choice. See *In re Larson*, 340 F.2d 965, 968, 144 USPQ 347, 349 (CCPA 1965) (A claim to a fluid transporting vehicle was rejected as obvious over a prior art reference which differed from the prior art in claiming a brake drum integral with a clamping means, whereas the brake disc and clamp of the prior art comprise several parts rigidly secured together as a single unit. The court affirmed the rejection holding, among other reasons, “that the use of a one piece construction instead of the structure disclosed in [the prior art] would be merely a matter of obvious engineering choice.”) In the instant case, it would be obvious to form the

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Haseyama-1 substrate **31A**, **41**, **42** integrally, because the parts of the substrate are shown in direct contact with each other in, for example, the **Haseyama-1** Fig. 9. Moreover, Fig. 14B shows that the seat portion and retaining portion of the aperture are integrally formed. Fig. 15 shows that the items **31A**, **41**, and **42** form a “one-piece substrate.”

Regarding claim 11, a layer of conductive material **46** (Fig. 16), **70** (Figs. 24A-24C) or a volume of conductive filler **30** (Fig. 11; col. 10, lines 64-67), **70** (Figs. 24A-24C) is disposed on the interior wall of the aperture **44**, **70** and is therefore necessarily “in” the aperture and electrically connects the base portion **71**, **72**, **73** of the spring contact **63** to the conductive trace **48** (Fig. 16).

Regarding claims 12, 14, 16, and 18, the conductive filler material **46**, **70** is electrically connected to conductive traces **48** (Fig. 16) formed on the one surface and the opposing surface of the substrate **42**. Further regarding claims 14 and 18, the retaining portion **46** of the aperture **44** may open onto the opposing surface **42** of the one-piece substrate (Fig. 16).

Regarding claim 20, the second end of the retaining portion **46**, **70**, opens onto an opposing surface of the substrate **42**, **32** as shown in Figs. 16, 24A-24C.

Regarding claim 21, the seat portion may be conically shaped (Fig. 11), hemispherically shaped (Fig. 9) or cylindrically shaped (Fig. 14B).

Regarding claim 22, the seat portion **38** (or **53A**) is configured to at least partially align the lead element **28** of the IC device **25**, as noted above.

7. Claims 13 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Haseyama-1** in view of Patent Application Publication US 2002/0075025 A1 (**Tanaka**).

The prior art of **Haseyama-1**, as explained above, discloses each of the claimed features except for indicating that the substrate has an “intermediate conductive plane,” which Examiner interprets to be exemplary shown in the instant Fig. 11, item 669.

Tanaka, like **Haseyama-1**, teaches a semiconductor testing tool, and provides an “intermediate conductive plane,” (called “internal lead wires 8” in the Abstract), electrically connected to the conductive layer or conductive filler 7, which beneficially reduces the number of structural elements of the test tool.

It would have been obvious for one of ordinary skill in the art, at the time of the invention to include “intermediate conductive plane,” as taught by **Tanaka**, in the substrate of **Haseyama-1** to beneficially reduce the number of structural elements, by providing embedded elements, as expressly taught by **Tanaka**.

8. Claim 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Haseyama-1** in view of JP 2000-123935 (**Kawaguchi**).

The prior art of **Haseyama-1**, as explained above, discloses each of the claimed features except for indicating that the coil spring has at least two coils for contacting the lead elements.

Kawaguchi teaches a similar integrated circuit test tool to **Haseyama-1** wherein coil springs 20 (Figs 1 and 2) are used to make electrical contact to the lead elements 11 (solder bumps or conductive balls) of an integrated circuit 10, and states in pertinent part (in the machine language translation) “this invention aims at offer of the contact pin which does not start the defective continuity by the poor contact, and the socket using this contact pin, without generating damage, when ... a conductive ball is contacted” (paragraph [0006]) and in solving the problem

provides a contact pin having a contact section, “of the shape of a spiral by two or more number-of-turns sections of a coiled spring edge.” The figures show that at least two coils each contact the ball.

It would have been obvious for one of ordinary skill in the art, at the time of the invention to use two or more coil turns as taught by **Kawaguchi** in the spring contact portion of **Haseyama-1** to prevent damage and provide better contact with the solder bumps, as expressly taught by **Kawaguchi**.

9. Claims 9, 10, 13, 16, and 17 are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over US Patent Application Publication 2002/0060579 A1 (Haseyama et al.; **Haseyama-2**, hereafter) in view of Applicant's admitted prior art (**APA**).

Regarding claim 9, **Haseyama-2** discloses a device for establishing electrical contact between a lead element **31** extending from an integrated circuit **30** comprising,

a one-piece substrate **20, 24** (Fig. 5A), bounded by a first surface and an opposing second surface and having at least one conductive trace **25** (Fig. 5B), wherein the first surface is configured for mounting a plurality of IC devices (called “semiconductor devices” in Haseyama at col. 1, lines 18-27) thereto, configured for operably connecting the IC device **30** to at least one electrical component **26** mounted on the one-piece substrate;

a spring contact (Figs. 4A-4F) including a generally uncoiled base portion **11A-11F** and a contact portion **12**, the contact portion comprising a resiliently compressible coil spring **12** comprising a plurality of coils configured to bias against and electrically contact a lead element

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31 of an IC device **30** of the plurality of IC devices, and the base portion **11A-11F** extending generally longitudinally from the contact portion **12** and transversely to the coils of the coil spring **12**; and

an aperture **21** opening onto one surface of the one-piece substrate and extending a depth at least partially into the one-piece substrate (Figs. 5A-5B), the aperture **21** configured to receive and electrically contact the base portion of the spring contact,

wherein the aperture **21** includes

a seat portion (Fig. 5B) opening onto the first surface of the one-piece substrate **20, 24** and sized and configured to at least partially contain the contact portion **12** of the spring contact **12** and support the coils of the coil spring during compression thereof (Figs. 4A-4F); and

a retaining portion (Fig. 5B) having a substantially uniform interior size and a first end connected to an opposing end of the seat portion and a second end of a smaller lateral extent than the seat portion (the second end is taken to be the bottom of the opening having zero lateral extent) and extending at least partially into the one-piece substrate **20, 24**, wherein the substantially uniform interior size of the retaining portion is smaller than an interior size of the seat portion at the first surface of the one-piece substrate, and wherein the retaining portion is configured to receive and electrically connect (by item **46** in Fig. 16, called “through hole electrodes,” at col. 12, lines 45-47; or item **70** in Figs. 24A-24C) the base portion **71, 72, 73** of the spring contact **63**, to the at least one conductive trace **48** (Fig. 16).

If it is thought that **Haseyama-2** does not provide a “one-piece substrate” since the items **20, 24** are labeled differently and shown bolted together in Fig. 5A, then this may be a difference. However, it has been held that the use of a one-piece construction instead of the separate pieces, would be merely a matter of obvious engineering choice. See *In re Larson*, 340 F.2d 965, 968, 144 USPQ 347, 349 (CCPA 1965) (A claim to a fluid transporting vehicle was rejected as obvious over a prior art reference which differed from the prior art in claiming a brake drum integral with a clamping means, whereas the brake disc and clamp of the prior art comprise several parts rigidly secured together as a single unit. The court affirmed the rejection holding, among other reasons, “that the use of a one piece construction instead of the structure disclosed in [the prior art] would be merely a matter of obvious engineering choice.”) In the instant case, it would be obvious to form the **Haseyama-2** substrate integrally, because the items **20** and **24** of the substrate are shown bolted together in Fig. 5A to form a one-piece substrate.

Haseyama-2 does not teach that the first surface is configured to hold plural integrated circuit devices.

APA teaches in paragraph [0002],

“State of the Art: Integrated circuit (IC) devices, such as Ball Grid Array (BGA) packages and Small Outline J-Lead (SOJ) packages, are commonly assembled into multi-chip modules for connection to higher-level packaging, such as a motherboard or a personal computer chassis. **Generally, a multi-chip module (MCM) includes a carrier substrate, such as a printed circuit board, having a plurality of IC devices mounted thereto.** Other electrical components, such as resistors, capacitors, inductors, or other suitable devices, may also be mounted on the carrier substrate of the MCM, or even on the IC devices.” (Emphasis added.)

It would have been obvious for one of ordinary skill in the art, at the time of the invention to configure the first surface of **Haseyama-2** to attach plural IC devices in order to form a multi-

chip module and also to test the multi-chip module, as taught to be known in **APA**. Moreover, the courts have held that mere duplication of parts has no patentable significance unless a new or unexpected result is produced see *In re Harza*, 274 F.2d 669, 124 USPQ 378 (CCPA 1960). No unexpected results from attaching more than one integrated circuit device. Instead the result is quite expected, that a multi-chip module can be formed. Alternatively, testing of plural integrated circuit devices simultaneously would desirably increase device throughput.

Regarding claim 10, **Haseyama-2** discloses the second end of the retaining portion does not extend through the one-piece substrate **20, 24** to the opposing, “substantially planar” second surface. The opening ends at the end of **20** but does not go through **24**. Note that **24** is called a “substrate” at paragraph [0037].

Regarding claim 16, **Haseyama-2** discloses the conductive filler **25** connects to the at least one conductive trace **26**.

Regarding claims 13 and 17, **Haseyama-2** discloses item **26**, a conductive trace formed at an intermediate plane in the one-piece substrate **20, 24**.

Allowable Subject Matter

Regarding claim 15, while **Haseyama-2** discloses item **25** in Fig. 5B, shown to be a volume of conductive filler material disposed in and filling at least a portion of a longitudinal extent of the aperture **21** and contacting the base portion of the spring contact, **the base portion does not extend into the conductive filler**. Incorporation of this limitation into the claims would overcome the rejection of claim 15 over **Haseyama-2**. Note however that the allowability of claim 15 depends upon overcoming the rejection of the claim under 35 USC 112(2).

Response to Arguments

10. Applicant's arguments filed 24 August 2004 have been fully considered but they are not persuasive.

Applicant argues that Haseyama-1 and Haseyama-2 do not teach the limitation that the substrate surface is configured to mount a plurality of integrated circuit devices. Examiner respectfully disagrees. Applicant cannot selectively re-define "semiconductor device" to suit his purposes. Whether the plural semiconductor devices of Haseyama-1 and -2 are found in a single die or several dies, is irrelevant, as the claims do not make this distinction. Moreover, duplication of parts is not novel nor non-obvious, as noted in the rejection of the claims above.

In this regard, it has been held that **claim interpretation must begin with the language of the claim itself**. See *Smithkline Diagnostics, Inc. v. Helena Laboratories Corp.*, 859 F.2d 878, 882, 8 USPQ2d 1468, 1472 (Fed. Cir. 1988). First, and most important, the language of the claim defines the scope of the protected invention. *Yale Lock Mfg. Co. v. Greenleaf*, 117 U.S. 554, 559 (1886) ("The scope of letters patent must be limited to the invention covered by the claim, and while the claim may be illustrated it cannot be enlarged by language used in other parts of the specification."); *Autogiro Co. of Am. v. United States*, 384 F.2d 391, 396, 155 USPQ 697, 701 (Ct. Cl. 1967) ("Courts can neither broaden nor narrow the claims to give the patentee something different than what he has set forth [in the claim]."). See also *Continental Paper Bag Co. v. Eastern Paper Bag Co.*, 210 U.S. 405, 419 (1908); *Cimiotti Unhairing Co. v. American Fur Ref. Co.*, 198 U.S. 399, 410 (1905). Accordingly, **"resort must be had in the first instance to the words of the claim" and words "will be given their ordinary and accustomed meaning,**

unless it appears that the inventor used them differently.” *Envirotech Corp. v. Al George, Inc.*, 730 F.2d 753, 759, 221 USPQ 473, 477 (Fed. Cir. 1984).

The general claim construction principle that **limitations found only in the specification of a patent or patent application should not be imported or read into a claim** must be followed. See *In re Priest*, 582 F.2d 33, 37, 199 USPQ 11, 15 (CCPA 1978). One must be careful not to confuse impermissible imputing of limitations from the specification into a claim with the proper reference to the specification to determine the meaning of a particular word or phrase recited in a claim. See *E.I. Du Pont de Nemours & Co. v. Phillips Petroleum Co.*, 849 F.2d 1430, 1433, 7 USPQ2d 1129, 1131 (Fed. Cir.), cert. denied, 488 U.S. 986 (1988).

As stated by the court in *In re Hiniker Co.*, 150 F.3d 1362, 1369, 47 USPQ2d -523, 1529 (Fed. Cir. 1998) “[t]he name of the game is the claim.” **Claims will be given their broadest reasonable interpretation consistent with the specification, and limitations appearing in the specification are not to be read into the claims.** *In re Enter*, 756 F.2d 852, 858, 225 USPQ 1, 5 (Fed. Cir. 1985).

Applicant's selective interpretation of the disclosure of certain embodiments of Haseyama-1 are noted. Applicant's speculations in regard to the Haseyamam-1 reference are irrelevant. Haseyama-1 teaches and/or suggests each of the claimed features to one of ordinary skill in the art.

Applicant argues that Examiner admits that Haseyama-1 does not teach each of the features of claim 9 based upon a completely improper interpretation of that which Examiner stated. Examiner made no such admission. Examiner fully believes that the Haseyama-1

rejection is a proper rejection under 35 USC 102 **and** 103 for reasons of record, stated in the rejections above and incorporated herein by reference.

The remainder of the statements regarding claims 11, 12, 14, 15, 16, 18, 20, 21, and 22 on pp. 10-12 are based upon the alleged failure of Haseyama-1 to disclose the claims aperture. Accordingly there exist not further arguments to address regarding the rejection of the claims under 35 USC 102 or 103.

Conclusion

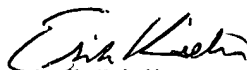
11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Erik Kielin whose telephone number is 571-272-1693. The examiner can normally be reached on 9:00 - 19:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carl Whitehead, Jr. can be reached on 571-272-1702. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Erik Kielin
Primary Examiner
24 August 2004